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Investigation into Improved Pavement Curing Materials and Techniques: Part 2 (Phase III)

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8. ABSTRACT

Appropriate curing is important for concrete to obtain the designed properties. This research was conducted to evaluate the curing effects of different curing materials and methods on pavement properties. At present the sprayed curing compound is a common used method for pavement and other concrete structure construction. Three curing compounds were selected for testing. Two different application rates were employed for the white-pigmented liquid curing compounds. The concrete properties of temperature, moisture content, conductivity, and permeability were examined at several test locations.

It was found, in this project, that the concrete properties varied with the depth. Of the tests conducted (maturity, sorptivity, permeability, and conductivity), conductivity appears to be the best method to evaluate the curing effects in the field and bears potential for field application. The results indicated that currently approved curing materials in Iowa, when spread uniformly in a single or double application, provide adequate curing protection and meet the goals of the Iowa Department of Transportation. Experimental curing methods can be compared to this method through the use of conductivity testing to determine their application in the field.

9. KEY WORDS

Conductivity, Curing, Maturity, Permeability
Portland cement concrete pavement

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